Meningococcal Disease

Agent: Neisseria meningitidis (bacteria)

<u>Mode of Transmission</u>: Transmission occurs through contact with respiratory droplets from the nose or throat of an infected person (e.g., through coughing or kissing).

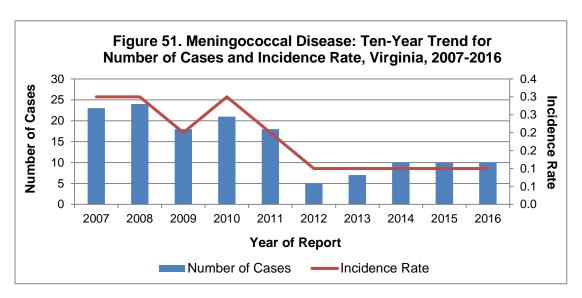
<u>Signs/Symptoms</u>: Meningitis is the most common presentation of invasive disease and includes sudden onset of fever, headache, and stiff neck, and often nausea, vomiting, sensitivity to light, and confusion. A rash may be present. A bloodstream infection may also occur (without meningitis), leading to abrupt onset of fever and a rash; it is often associated with shock and multi-organ failure. Less commonly, meningococcal disease can lead to pneumonia, arthritis, middle ear infections, or inflammation of the epiglottis.

<u>Prevention</u>: Almost all invasive disease is caused by one of five serogroups (A, B, C, W, and Y), with serogroups B, C, and Y causing the majority of meningococcal disease cases in the United States. The Advisory Committee on Immunization Practices (ACIP) recommends routine vaccination with a quadrivalent (protects against serogroups A, C, W, and Y) meningococcal conjugate vaccine for adolescents 11-12 years of age, with a booster dose at 16 years. Vaccination is also recommended for certain other groups at increased risk for meningococcal disease. In October 2014, the FDA approved the first serogroup B vaccine as a three-dose series. ACIP recommends use of a serogroup B meningococcal vaccine in certain persons aged 10 years or older who are at increased risk for meningococcal disease. Vaccination is also recommended to control outbreaks.

Other Important Information: Crowding, exposure to tobacco smoke, and concurrent upper respiratory tract infections increase the risk of disease. Individuals with certain medical conditions, such as complement component deficiency (immunodeficiency disorders) and asplenia (no spleen), are also at increased risk for disease. Meningococcal disease is more commonly diagnosed among infants, adolescents, and young adults than other age groups. Five to ten percent of people carry *N. meningitidis* in their nose without having any symptoms of disease; those who develop the disease are usually infected by a carrier who does not have symptoms. The case-fatality for meningococcal disease is eight to fifteen percent, even with appropriate antibiotic therapy.

Meningococcal Disease: 2016 Data Summary	
Number of Cases:	10
5-Year Average Number of Cases:	10.0
% Change from 5-Year Average:	0%
Incidence Rate per 100,000:	0.1

During 2016, ten cases of meningococcal disease were reported in Virginia, with a statewide incidence rate of 0.1 cases per 100,000 population (Figure 51). The 10 cases reported in 2016 match the number of cases reported in 2014 and 2015, and also reflect the five-year average of 10.0 cases per year. In general, rates of meningococcal disease have been declining in the U.S. and Virginia over the last two decades.

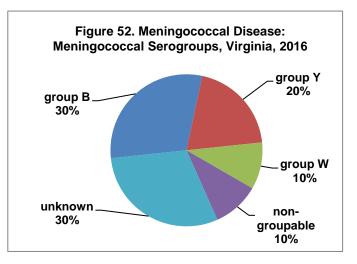


In Virginia, the 10-19 and 50-59 year age groups each had three cases and an incidence rate of 0.3 per 100,000. The 60 year and older age group accounted for two cases, while the remaining two cases occurred in the less than 1 year and 20-29 year age groups. Race information was not reported for 10% of cases. Among those with a known race, eight occurred in the white population, resulting in an incidence rate of 0.1 per 100,000. One case was reported in the black population. Eight cases were male, and two cases were female.

Four cases were reported from the northern region, three cases from the northwest region, two cases from the southwest region, and one case from the central region. No cases were reported from the eastern region. Cases were dispersed among nine different localities, which can be seen in the map below. While cases occurred throughout the year, 50% were reported during the second quarter.

Serogroup was reported for seven (70%) cases. Group B was the most common serogroup identified W, and one (10%) case was non-groupable (Figure 52). Vaccination with a quadrivalent meningococcal vaccine was reported for one individual, and the case was linked to disease caused by serogroup B. Of the remaining nine cases, 8 had an unknown vaccination status, and 1 did not receive vaccine. Three deaths were attributed to meningococcal disease in 2016, all occurring in females older than 50 years of age. No outbreaks of meningococcal disease were reported in 2016.

(3 cases, 30%), followed by Group Y (2 cases, 20%). One case (10%) was identified as serogroup



Meningococcal Disease Incidence Rate by Locality Virginia, 2016

